

SEQUENCE LISTING

<110> De Samblanx, Genoveva
Broekaert, Willem
Rees, Sarah

<120> Antifungal Proteins

<130> SYN-034DV

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<150> 09/077,951

<151> 1998-06-10

<150> GB 9525474.4

<151> 1995-12-13

<150> PCT/GB96/03065

<151> 1996-12-12

<160> 77

<170> PatentIn Ver. 2.0

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<220>

<223> Description of Artificial Sequence:primer

<400> 1

tatcagtcga cgcattgctat tgataagatt taaagg

36

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<223> Description of Artificial Sequence:primer

<400> 2

aataagcttg gacaagagac agaagttgtg ccaaagg

37

<210> 3

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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:primer

<400> 3

aaggatccct attaacaagg aaagtagc 28

<210> 4
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<220>
 <223> Description of Artificial Sequence:primer

<400> 4
 aatgctagct cagaagttgt gccaaagg 28

<210> 5
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<220>
 <223> Description of Artificial Sequence:primer

<400> 5
 aggaaacagc tatgaccatg 20

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<220>
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<400> 6
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<220>
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<400> 7
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<210> 8
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<400> 8
 Gln Lys Leu Cys Glu Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Asn Leu Glu Lys Ala Arg
 20 25 30

His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45

Phe Pro Cys
 50

<210> 9
 <211> 51
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 <213> Raphanus sativus

<400> 9
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30

His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45

Phe Pro Cys
 50

<210> 10
 <211> 50
 <212> PRT
 <213> Raphanus sativus

<400> 10
 Lys Leu Cys Glu Arg Ser Ser Gly Thr Trp Ser Gly Val Cys Gly Asn
 1 5 10 15

Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Gly Ala Gln His
 20 25 30

Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr Phe
 35 40 45

Pro Cys
 50

<210> 11
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 11
 Gln Lys Leu Cys Glu Arg Ser Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Asn Leu Glu Gly Ala Arg
 20 25 30

His Gly Ser Cys Asn Tyr Ile Phe Pro Tyr His Arg Cys Ile Cys Tyr
 35 40 45

Phe Pro Cys
 50

<210> 12
 <211> 27
 <212> PRT
 <213> Brassica rapa

<400> 12
 Gln Lys Leu Cys Glu Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Asn
 20 25

<210> 13
 <211> 27
 <212> PRT
 <213> Brassica rapa

<220>
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 amino acid

<400> 13
 Gln Lys Leu Cys Glu Arg Pro Ser Gly Thr Xaa Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg
 20 25

<210> 14
 <211> 30
 <212> PRT
 <213> Brassica napus

<400> 14
 Gln Lys Leu Cys Glu Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Asn Leu Glu Lys
 20 25 30

<210> 15
 <211> 23
 <212> PRT
 <213> Brassica napus

<400> 15

Gln Lys Leu Cys Glu Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn
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<210> 16

<211> 25

<212> PRT

<213> Sinapis alba

<400> 16

Gln Lys Leu Cys Glu Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys
 20 25

<210> 17

<211> 26

<212> PRT

<213> Sinapis alba

<400> 17

Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Arg Asn Gln Cys Ile
 20 25

<210> 18

<211> 27

<212> PRT

<213> Arabidopsis thaliana

<400> 18

Gln Lys Leu Cys Glu Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Ser Asn Ala Cys Lys Asn Gln Cys Ile Asn
 20 25

<210> 19

<211> 414

<212> DNA

<213> Raphanus sativus

<400> 19

gttttatttag tgatcatggc taagtttgcg tccatcatcg cacttctttt tgctgctctt 60
 gttcttttttg ctgcttttoga agcaccaaca atggtggaag cacagaagtt gtgcgaaagg 120
 ccaagtggga catggtcagg agtctgtgga aacaataacg catgcaagaa tcagtgcatt 180
 aaccttgaga aagcacgaca tggatcttgc aactatgtct tcccagctca caagtgtatc 240

tgctactttc cttgttaatt tatcgcaaac tctttggtga atagttttta tgtaatttac 300
 acaaaataag tcagtgtcac tatccatgag tgattttaag acatgtacca gatatgttat 360
 gttggttcgg ttatacaaat aaagttttat tcaccaaaaa aaaaaaaaaa aaaa 414

<210> 20
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 20
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 21
 <211> 47
 <212> PRT
 <213> Sorghum bicolor

<400> 21
 Arg Val Cys Met Lys Gly Ser Ala Gly Phe Lys Gly Leu Cys Met Arg
 1 5 10 15
 Asp Gln Asn Cys Ala Gln Val Cys Leu Gln Glu Gly Trp Gly Gly Gly
 20 25 30
 Asn Cys Asp Gly Val Met Arg Gln Cys Lys Cys Ile Arg Gln Cys
 35 40 45

<210> 22
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 22
 Gln Lys Leu Cys Met Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 23
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 23
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Gly Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 24
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 24
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Ser Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 25
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 25
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 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 26
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 26
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Trp Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 27
 <211> 51
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<400> 27
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Gly Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 28
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 28
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Met Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
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<210> 29
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 <212> PRT
 <213> Raphanus sativus

<400> 29
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 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Gln Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 30
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 30
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Pro Pro Ala His Lys Cys Ile Cys Ile
 35 40 45
 Phe Pro Cys
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<210> 31
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 31
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Ala Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 32
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 32
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 Ala Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 33
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 <212> PRT
 <213> Raphanus sativus

<400> 33
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Ala Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 34
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 34
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Ala Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
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<210> 35
 <211> 50
 <212> PRT
 <213> Raphanus sativus

<400> 35
 Gln Lys Leu Cys Gln Arg Ser Gly Thr Trp Ser Gly Val Cys Gly Asn
 1 5 10 15
 Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His
 20 25 30
 Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr Phe
 35 40 45
 Pro Cys
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<210> 36
 <211> 50
 <212> PRT
 <213> Raphanus sativus

<400> 36
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Pro Ala His Lys Cys Ile Cys Tyr Phe
 35 40 45
 Pro Cys
 50

<210> 37
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 37
 Gln Lys Leu Cys Gln Arg Arg Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 38
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 38
 Gln Lys Leu Cys Gln Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 39
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 39
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Arg Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
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<210> 40
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 40
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Arg Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 41
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 41
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Arg Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 42
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 42
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Arg Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 43
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 43
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 44
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 44
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Arg His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 45
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 45
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Arg Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 46
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 46
 Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Arg Pro Cys
 50

<210> 47
 <211> 43
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:primer

<400> 47
 aataagcttt ggacaagaga cagaagttgt gcatgaggcc aag 43

<210> 48
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:primer

<400> 48
 ttgtgccaaa ggnnnagtgg gacatgg 27

<210> 49
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:primer

<400> 49
 ccaagtgggg gttggtcagg 20

<210> 50
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:primer

<400> 50
 agtgggacat cctcaggagt c 21

<210> 51
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:primer

<400> 51
 ggagtctgta tgaacaataa cgc 23

<210> 52
 <211> 20

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:primer

 <400> 52
 tcttgcaacg gtgtcttccc 20

 <210> 53
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:primer

 <400> 53
 tgcaactatg tcatgccagc ta 22

 <210> 54
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:primer

 <400> 54
 ttcccagctc accaatgtat ctg 23

 <210> 55
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:primer

 <400> 55
 aactatgtct tcnnngctca caagtg 26

 <210> 56
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:primer

 <400> 56
 tgtatctgca tctttccttg 20

 <210> 57
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 57

Gln Lys Leu Cys Glu Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Asn Leu Glu Lys Ala Arg
 20 25 30

His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45

Phe Pro Cys
 50

<210> 58

<211> 51

<212> PRT

<213> Raphanus sativus

<400> 58

Gln Lys Leu Cys Glu Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Asn Leu Glu Lys Ala Arg
 20 25 30

His Gly Ser Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45

Phe Pro Cys
 50

<210> 59

<211> 51

<212> PRT

<213> Raphanus sativus

<400> 59

Gln Lys Leu Cys Glu Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Asn Leu Glu Lys Ala Arg
 20 25 30

His Gly Ser Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45

Phe Pro Cys
 50

<210> 60

<211> 51

<212> PRT

<213> Raphanus sativus

<400> 60
 Gln Lys Leu Cys Met Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Asn Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 61
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 61
 Gln Lys Leu Cys Glu Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Met
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Asn Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 62
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 62
 Gln Lys Leu Cys Gln Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly
 1 5 10 15
 Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30
 His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45
 Phe Pro Cys
 50

<210> 63
 <211> 51
 <212> PRT
 <213> Raphanus sativus

<400> 63

Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30

His Gly Ser Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45

Phe Pro Cys
 50

<210> 64

<211> 51

<212> PRT

<213> Raphanus sativus

<400> 64

Gln Lys Leu Cys Gln Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30

His Gly Ser Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45

Phe Pro Cys
 50

<210> 65

<211> 51

<212> PRT

<213> Raphanus sativus

<400> 65

Gln Lys Leu Cys Met Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30

His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45

Phe Pro Cys
 50

<210> 66

<211> 51

<212> PRT

<213> Raphanus sativus

<400> 66

Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Met
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30

His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45

Phe Pro Cys
 50

<210> 67

<211> 50

<212> PRT

<213> Raphanus sativus

<400> 67

Lys Leu Cys Glu Arg Ser Ser Arg Thr Trp Ser Gly Val Cys Gly Asn
 1 5 10 15

Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Gly Ala Gln His
 20 25 30

Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr Phe
 35 40 45

Pro Cys
 50

<210> 68

<211> 50

<212> PRT

<213> Raphanus sativus

<400> 68

Lys Leu Cys Glu Arg Ser Ser Gly Thr Trp Ser Gly Val Cys Gly Asn
 1 5 10 15

Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Gly Ala Gln His
 20 25 30

Gly Ser Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe
 35 40 45

Pro Cys
 50

<210> 69

<211> 50

<212> PRT

<213> Raphanus sativus

<400> 69

Lys Leu Cys Glu Arg Ser Ser Arg Thr Trp Ser Gly Val Cys Gly Asn
 1 5 10 15

Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Gly Ala Gln His
 20 25 30

Gly Ser Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe
 35 40 45

Pro Cys
 50

<210> 70

<211> 50

<212> PRT

<213> Raphanus sativus

<400> 70

Lys Leu Cys Met Arg Ser Ser Gly Thr Trp Ser Gly Val Cys Gly Asn
 1 5 10 15

Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Gly Ala Gln His
 20 25 30

Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr Phe
 35 40 45

Pro Cys
 50

<210> 71

<211> 50

<212> PRT

<213> Raphanus sativus

<400> 71

Lys Leu Cys Glu Arg Ser Ser Gly Thr Trp Ser Gly Val Cys Met Asn
 1 5 10 15

Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Gly Ala Gln His
 20 25 30

Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr Phe
 35 40 45

Pro Cys
 50

<210> 72

<211> 51

<212> PRT

<213> Raphanus sativus

<400> 72

Gln Lys Leu Cys Glu Arg Ser Ser Arg Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Asn Leu Glu Gly Ala Arg
 20 25 30

His Gly Ser Cys Asn Tyr Ile Phe Pro Tyr His Arg Cys Ile Cys Tyr
 35 40 45

Phe Pro Cys
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<400> 73

Gln Lys Leu Cys Glu Arg Ser Ser Gly Thr Trp Ser Gly Val Cys Gly
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Phe Pro Cys
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Gln Lys Leu Cys Glu Arg Ser Ser Arg Thr Trp Ser Gly Val Cys Gly
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Phe Pro Cys
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<213> Raphanus sativus

<400> 75

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Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Asn Leu Glu Gly Ala Arg
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His Gly Ser Cys Asn Tyr Ile Phe Pro Tyr His Arg Cys Ile Cys Tyr
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Phe Pro Cys
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Gln Lys Leu Cys Glu Arg Ser Ser Gly Thr Trp Ser Gly Val Cys Met
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Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Asn Leu Glu Gly Ala Arg
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His Gly Ser Cys Asn Tyr Ile Phe Pro Tyr His Arg Cys Ile Cys Tyr
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Phe Pro Cys
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Xaa Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly
 1 5 10 15

Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg
 20 25 30

His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr
 35 40 45

Phe Pro Cys
 50